



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,049	02/14/2002	Janez Pirs	5599	6149

6858 7590 02/17/2005

BREINER & BREINER  
115 NORTH HENRY STREET  
P. O. BOX 19290  
ALEXANDRIA, VA 22314

EXAMINER

PADGETT, MARIANNE L

ART UNIT	PAPER NUMBER
----------	--------------

1762

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/018,049

Applicant(s)

PIRS ET AL.

Examiner

Marianne L. Padgett

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/14/01 & 9/8/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-15 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/14/01</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1762

1.) Applicant's election with traverse of group I process claims, originally 1-5, rewritten as 10-14 in the reply filed on 9/8/04 is acknowledged. The traversal is on the ground(s) that the rewritten product claim 15 is dependent from the method claims 10, 11, 12, 13 or 14, so "is not capable of being made by another materially different process". This is not found persuasive because a product by process format, still only limits the product by the structure that may be produced, regard less of HOW its produced, i.e. claim 15 does not exclude the same structure made by an alternative process, and the applicant provided no reasons or evidence that structure covered by claim 15 cannot be produced by other techniques. For example, there is no reason why a generic monomer or prepolymer that is poured onto a substrate need to have any different structure than a vapor deposition of like generic monomer, etc., thus exemplifying a different process producing claimed product structures. Furthermore, process claims 10-14 do not necessarily make an LC shutter, it's only stated as a non-necessary intended use.

The requirement is still deemed proper and is therefore made FINAL.

2.) Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Abbreviations or acronyms, such as "LC" should be written out in full on their first usage in a claim sequence, in order to define them and provide clear unambiguous meaning to the claim limitations.

Use of relative terms that lack clear metes and bounds in the claims, is vague and indefinite, unless provided with a clear definition in the specification or in cited relevant prior art. In claim 10, line 8, see "hard" or in line 7 "soft" for describing spacers. For purposes of

Art Unit: 1762

examination the options of 1 (b) and 1(c) will be considered to cover all possible spacers in the claimed configuration due to the lack of defined ranges of meaning. Note since there is no clear differentiation between hard and soft spacers, when any spacers are used, either full or partial curing with completion without spacers for limitation as claimed will be considered to read on the claims as written. This also affects meanings in claim 14.

In claim 1, the step “3” of cooling, has no necessary or clear meaning with respect to the proceeding steps, because, in no steps of claim 10 is there necessarily any heating or heat input to require the layer to ever be at any temperature other than room temperature. In other words, if no heating or elevation of temperature ever necessarily occurs, requiring cooling is meaningless or of uncertain intent. Note, claims 11 and 13 remove this discrepancy.

In claim 11, lines 4-6, the limitation concerning “resulting optical birefringence...” is not positively claimed, since “can be” does not necessitate that the claimed procedure ever takes place. Therefore, as presently written claims 11 and 13, both appear to cover the same necessary scope.

In the claim 10 preamble, it is noted that in lines 2-3 “for a LC optical light shutter...” is an intended use that is never necessitated, since only generic rigid (i.e. does not bend) single or pairs of substrates are employed, where the claimed substrates have no particular shape or necessary function, etc. Furthermore, there is no necessary relationship between “...a monomer or prepolymer mass as a layer” in line 5 to the “optical compensation polymer layer” of the preamble, so that the body of the claims is not commensurate in scope with the preamble. Note with respect to scope and claimed alternatives, the broadest claimed process simply reads on

Art Unit: 1762

pouring any monomer or prepolymer on any rigid substrate and fully curing (by any means) the layer so formed, such that the claimed shrinkage relationship is met.

3). The examiner notes that the new broader feature of claim 10 step (1) option (a) finds support at the beginning of the first full paragraph on page 6 of the specification.

4). The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1762

5). Claims 10-11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanto et al (5,998,556).

In Ex. 1 on col. 23, Kanto et al teach pouring a monomer mixture between two glass plates, heating at 55°C for a set time to cure a transparent polymer plate, whose measured glass transition temperature is 137°C, thus reading on the claimed procedure of pouring over a rigid surface to form a layer and the relative thermal or elevated temperature limitations required for curing. While this example is silent concerning any occurrence of shrinkage and resultant strain, as there is no difference in the process steps, lacking any critically different process requirement or procedure, the same steps would have been expected to inherently produce the same effects. Especially as no report of crocking, crazing, warping, stress patterns, etc., was disclosed. Note that stopping the heating will automatically or inherently result in the claimed cooling to room temperature.

6). Claims 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Arakawa (5,528,400).

Arakawa teaches making an optical compensatory sheet comprising at least 2 films, one having an optical axis normal (i.e. perpendicular) to the film, where deposition techniques include cast coating (reads on pouring) a polymer solution and treating via roller to effect shearing stress, which would inherently effect a smaller strain in the perpendicular direction than those in the plane of the layer, since the act of pressing will relieve the strain in that direction. Taught curing means include thermal or use of UV with a controlled elevated temperature. See the abstract; figures, esp. 6; col. 2, lines 45-49 & 60-67; col. 3, lines 8-34; col. 4, line 56-68<sup>+</sup>; col. 7, lines 36-54; col. 9, lines 1-2; plus col. 10, lines 38-48<sup>+</sup>; col. 15, line 5-col.16, line 54, esp.

Art Unit: 1762

col.15, lines 8-13 for solutions, lines 14-25 a& 49-54 for temperatures and UV, lines 38-47 for various liquid coating techniques of which curtain, extrusion, spin and spray coating may be considered to involve pouring of some sort; and col. 16, lines 18-25<sup>+</sup> for description of effects of Fig.6.

7). Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by General Aniline film Corp. (GB 758,136) with Tada et al (4,259,407) as a teaching reference.

The British patent teaches production of polymeric sheets by pouring methyl  $\alpha$ -chloroacrylate between two sheets held apart by spacers, partially curing to gel the polymer, removing the spacers, then completing the cure. Note that gelling is considered equivalent to curing to a first level of viscosity that does not leak. The curing means may be by UV and/or general heating. An example employs 58°C. While what the glass transition temperature of polymerized methyl  $\alpha$ -chloroacrylate is not given, it is believed to be considerably higher than the exemplary 58°C as evidenced by Tada et al (col. 2, lines 3-7), which teach that "poly (methyl  $\alpha$ -chloroacrylate) has a high glass transition temperature and good heat resistance...", since in general 58°C would not be considered high, but instead low.

7). Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on Monday-Friday from about 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beck Shrive can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Padgett/LR  
February 3, 2005  
February 16, 2005

A handwritten signature in cursive script, appearing to read "Marianne Padgett". The signature is written in black ink and is positioned above a printed nameplate.

**MARIANNE PADGETT  
PRIMARY EXAMINER**